

Reading a Math Text Book

Reading a math text book is very different than reading a novel or even reading another kind of text book. In order to effectively use your math text book you need to understand different techniques for reading and understanding the material. You will need to take your time and devote total concentration. In a math text book every word counts.

When you first get your text book for the quarter, familiarize yourself with the structure of the book and any imbedded helps that the author has provided. Often there is a section at the beginning called "to the student" or something similar. You should read that section thoroughly and make specific note of the ways the authors encourage you to use and understand the book. Once you understand the structure of the book you are ready to read specific sections.

Before you get into reading a section of the book carefully you should do a quick skim of the assigned reading. As you do this, you are looking for the main ideas and objectives from that section. Read the section head and subheadings, the introduction, the summary (often found at the end of the chapter), and key words. Try to get an overview of the material and to think about how this new topic relates to topics you have already studied.

As you are skimming the text you may encounter new words that you do not know. Circle these words and make sure you get definitions for them, either by looking in the book's glossary or by asking your instructor.

Now that you have skimmed the section and gotten a general idea of the topic it is time to read it very carefully. Read the material with a highlighter in your hand. Highlight the main ideas and terms. The goal is to highlight no more than 50% of the page. You want to narrow down the material so that you can go back and study it in the future.

You want to understand each sentence before you move on to the next one. If you do not understand a sentence it may be because you don't understand the vocabulary. If that is the case, make sure you get good definitions for the words that you do not understand. Many times it will just take reading a sentence a few times to understand it. Maybe a diagram or illustration in the book will help the sentence to make sense. Think about what you have learned before and about the sentences that

come just before this one. Remember that reading a math textbook is very difficult and sometimes it might take you half an hour to read and understand just one page.

Write as you read. Look carefully at each example and try to reproduce the work. Try to work out each line for yourself, step by step. Go over these problems in detail; successful students rely heavily upon these. Go through them until you understand every step. Work through the problem one step at a time. If there are steps missing in an example fill them in. Once you feel that you understand the example, close the book and try to work it again on your own. Repeat until you can reproduce the solution with the book closed but try NOT to memorize the solution. Keep track of “what to do” to move from each line to the next.

Make notes to yourself right in the text that help clarify what you are reading. This can include writing key vocabulary words in the margins. When you are done reading a section you should have a sheet of vocabulary words from the section and your book should be marked with questions, main points highlighted, and notes written in about the steps in each example problem.

If you do not feel that the explanation in your text book is clear, you can refer to another math textbook, computer software program or video that expands the explanation of the misunderstood material. Another person can also help you to understand. You can call a classmate with whom you study regularly for help understanding. Or you can contact a math tutor or math instructor for help.

After you finish reading the section, take some time to reflect on what you have read. Try to find connections between what you already know and the new information that you just read. Think about how this new information enhances your math knowledge. Prepare questions for your instructor on the confusing information. Ask those questions at the next class meeting.

When should you read your text book? For the maximum benefit, you should read the text book both before and after the class when the material is discussed. You will get the most out of class if you have read the material before the instructor presents it. It will prepare you to anticipate the questions that you will have. After the class reading the text book will help you to process the new information. Even if you felt you understood the material in class, it is beneficial to read the chapter over soon after class. This second reading will help you store the information you've learned in your long term memory.

